

23 ° C, relative humidity 40-44%. The affiliation of the isolated colonies to the genus *Bacillus* was determined by morphological features, belonging of the species was determined by the biochemical properties of the strains. Used equipment: Bacteriological thermostat Memmert INB-800, ScoutProSPU402 electronic scales, AES-110 steam sterilizer, laboratory shaker, pipette pipette DI-100-1000µl, pipette pipette DI-0,5-10µl, psychrometric hygrometer VIT-2. All microbiological studies were carried out on the basis of the scientific clinical diagnostic laboratory of the Kazakh National Medical University named after SD Asfendiyarov.

Results and discussion. As a result of the studies, pure culture of *Bacillus subtilis* was obtained only from wheat grains. Identification confirming belonging to this species was carried out according to the morphological and biochemical properties of the strains. A comparative analysis of the selective media used showed that the optimal medium is serum agar. Cultures isolated from potatoes and beets were identified as strains of the genus *Bacillus cereus*.

Conclusions. For the production of probiotic strains of *Bacillus subtilis*, the use of wheat grains is recommended as a seed. The materials and methods of isolating pure culture are not a complex and costly process, and therefore can be used in the creation of probiotic drugs in pharmaceutical industries.

THE RESEARCH OF MICROORGANISMS SENSITIVITY TO SULFUR-CONTAINING AND OXYGEN-CONTAINING SUBSTANCES

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Introduction. According to the data of the World Health Organization, the main problem is the large number of diseases that are caused by different strains of microorganisms. Most of them has got resistant to known antibiotics. It is important to select substances that are active against new pathogens and resistant strains. The creation of new drugs with antimicrobial activity is promising. They must have the unique mechanism of action and don't create cross-resistance with known drugs.

Aim. The sensitivity of microorganisms of different groups to some 1,3,4-oxadiazoles and 1,3,4-thiadiazoles derivatives by the diffusion in agar method studying.

Materials and methods. The following museum test-strains of *Staphylococcus aureus* ATCC 26923, *Escherichia coli*, ATCC 25922, *Bacillus subtilis*, ATCC 6633, *Pseudomonas aeruginosa* ATCC 27853 have been used. The suspension of microorganisms cells was standardized according to 0,5 McFarland's standard. New sulfur-containing (S) and oxygen-containing (O) substances have been synthesized at the department of nutriciology and pharmaceutical bromatology of NUPh. Substances S (n=3) and O (n=3) were studied at the concentration range from 0.9 to 100.0 mg/cm³. 96% ethanol solution was used as the solvent. Research of antimicrobial activity was carried out by a unified well diffusion method on two layers of solid medium in Petri dishes. The results were recorded after 24 hours of incubation at 37°C. The research was carried out in three replicates with the obligatory observance of aseptic rules applicable for biotechnology laboratories. The analysis of the results was carried out using methods of mathematical statistics.

Results and discussion. As a result of the research it was found that 2 substances of 1,3,4-thiadiazole derivatives inhibit the growth of Gram-positive microorganisms (Table 1). Derivatives of 1,3,4-oxadiazoles do not cause significant retardation in the growth of gram-negative microorganisms. Perhaps this is due to this group of antibiotics are difficult to dissolve in ethanol or tests microorganisms are resistance to them.

Table 1 - Range of microorganisms growth inhibition zones, mm

Substance	Gram-positive bacteria	Gram-negative bacteria
1	from 19,87±1,29 to 35,67±1,02	-
2	-	-
3	from 22,10±1,16 to 33,33±2,27	-

Conclusions. 1,3,4-thiadiazoles derivatives are promising for Gram-positive microorganisms, and Gram-negative microorganisms proved to be resistant to them. The 1,3,4-oxadiazoles derivatives researches are continuing in order to select the optimal solvent.

RESEARCH OF THE EFFECTIVENESS OF DEVELOPED PRODUCTS FOR FUNCTIONAL PROFILACTIC TREATMENT

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Introduction. Deserved popularity is the use of millions of people from different countries of the world, sour-milk drinks, squashed by various types of lactic acid bacteria. The benefits of sour-milk products today are known to every person who leads a healthy lifestyle. Growing consumer interest in sour-milk products is due to their positive impact on the human body. Thus, to date, the production of functional sour-milk drinks with a pronounced therapeutic and prophylactic effect on the basis of the raw materials available to our region is relevant.

Purpose. The purpose of this scientific work was to investigate the indicators of quality and effectiveness, indicating the potential therapeutic and prophylactic properties of developed functional dairy products.

Materials and methods of research. The effectiveness of developed functional dairy products, which will provide a potential therapeutic and prophylactic effect, namely: qualitative and quantitative composition of microflora of products, antimicrobial and adhesive properties, acid formation. Laboratory samples of functional sour milk drinks made according to previously developed composition and technology: yogurts enriched with extract of stevia and hipster syrup, non-traditional sour-milk drinks kumys, tan, ayran, probiotic sour-milk drinks based on cow's milk and goat's milk and commercially available yeast preparations; industrial samples of dairy products that are available on the domestic market and are subject to comparison.

Results. The main tendencies of the market development of functional sour-milk products are selected, promising for the production of KMP: enriched yoghurts, non-traditional sour-milk drinks kumys, tan, ayran, probiotic sour-milk drinks and industrial samples of beverages available on the Ukrainian market. The composition and technology of these products are developed, laboratory samples are made. The basic indicators of quality and efficiency of the offered products, namely qualitative and quantitative composition, antimicrobial and adhesive properties, acid formation, are determined. All developed products have a high level of properties, which allows them to be recommended as effective therapeutic and prophylactic means. Also, the composition and technology of production of functional dairy products have been developed, their efficiency as a therapeutic and prophylactic means has been proved, which allows recommending their manufacturing in the scale of industrial production in order to provide the population with effective immunostimulatory, probiotic, anti-infectious agents.

Conclusion. For the first time on the basis of the complex of research the theoretical and experimental basis of the composition and developed the technology of manufacturing functional dairy products: yogurts, enriched with extract of stevia and hipster syrup, non-traditional sour-milk drinks of kumys, tan, ayran, probiotic sour milk drinks based on cow's and goat's milk and commercially available fermentation drugs and their effectiveness as a therapeutic and prophylactic means (at dysbiotic disorders, infectious diseases, a hundred in immunodeficiency).